# CHAPTER 4

# AGENCY COORDINATION

US Army Corps
of Engineers
Sacramento District

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Agency coordination is an essential element for the operation of the flood management systems in the Central Valley. Due to the nature of the flood management systems, several factors need to be considered during flood operations. Although dam operators are required to follow the Water Control Plan and maintain the stated flood management reservations for adequate downstream protection, operators also consider both upstream and downstream conditions when making release decisions. In many cases, the operation of upstream dams that are owned and operated by other agencies must be considered. Often, informal cooperation with these upstream facility agencies allow project flood management operators to take advantage of available upstream storage while adjusting downstream releases to provide flood protection.

Dam operators monitor the downstream flow since the downstream channel capacities need to accommodate the objective releases from the dam, flows from other flood management projects, and uncontrolled drainage areas. An objective release is the maximum allowable outflow from a dam as specified in the Water Control Plan. Operators manage releases to maintain flood management space at the same time considering downstream conditions. These considerations may include levee seepage, erosion, and/or strength, and channel capacity. Additionally, the operators consider the impact of flow fluctuations on fish spawning habitat. Objective flows pertain to specific reaches of a river based on local conditions, and are established through coordination with local entities. An objective flow is intended to reflect non-damaging conditions. These conditions may include levee stability and seepage, riparian growth, and adjacent land uses.

## FLOOD MANAGEMENT OPERATIONS

Flood management decisions for each project are made based on the approved Water Control Plan from the Water Control Manual for that project. These decisions are a reaction to rain or snow on ground. Currently, weather forecasts are not used for reservoir operations except in a very broad sense of preparing for large storms that are coming in off the Pacific Ocean.

Numerous factors must be considered when operating each project. Many of these can have opposite effects on operation. Operations to meet requirements of the approved Water Control Plan do not preclude these considerations, but do supersede them in priority. One such consideration is that after an event, any major release to evacuate flood management storage can potentially affect downstream property owners, as well as the river channel. Releases must balance the potential damage with the need to evacuate flood management storage.

To ensure that the flood management operation of each of the flood management projects will be as effective as possible, it is essential that the operating agency be continually advised of possible flood hazards, weather conditions, inflows to the project and upstream reservoirs, and flows in

the system downstream from the project. This requires close liaison between the Corps of Engineers, National Weather Service, U.S. Geological Survey, California Department of Water Resources, local operating agencies, and downstream interests on a daily or hourly basis as required. The following sections describe the roles of major Federal and State of California Agencies in flood protection management.

## FEDERAL AGENCIES

### U.S. ARMY CORPS OF ENGINEERS

The U.S. Army Corps of Engineers has nationwide responsibility for flood management. In California, flood management on the Sacramento River system, the San Joaquin River system, and other rivers are a combination of Corps, USBR, State, and private projects, all operated under Corps' official Water Control Plans. The Corps has emergency authority under Public Law 84-99, enacted June, 1955, to fight any flood to protect life and property and to rehabilitate Federal flood management facilities which are maintained by State and local entities.

#### Water Management

The Corps' Water Management Section monitors the status of all projects for which the Corps has issued a water control plan for regulation of seasonally reserved flood storage purchased by the Corps. Coordination with project operators continues year round, but generally intensifies in August or September prior to flood season. Anticipated project operation during the flood season and compliance with the Water Control Plan are discussed, and any factors which might cause operations to deviate from the Water Control Plan are identified and must be rectified or a deviation request approved. These factors may include channel and/or levee conditions downstream, release limitations for fish and wildlife, and other operational constraints. Periodically during the flood season, the Corps may consult with the operating agency on project operation as a result of monitoring dam operations, or at the request of the operating agency. However, the Corps' authority is limited to serving notice to the operating agency of any noncompliance to the Water Control Plan.

#### Public Law 84-99 Authority

Under this authority, the Corps assists in flood fights during the emergency and repairs damages to qualified flood management facilities after the emergency ends. Emergency response under Public Law 84-99, enacted in 1955, is extended at the request of the Governor, who must determine and certify that local forces cannot meet the emergency physically or financially and that State assistance is not available. Corps' response can include providing technical assistance, supplying materials otherwise unobtainable, or actual flood fighting, using heavy construction equipment if necessary. After the 1997 flood, Corps' Sacramento District categorized levee rehabilitation into three phases (I, II, and III) to distinguish between various levels of repair.

***Emergency Flood Fight (Phase I).*** The Corps' emergency flood fight assistance can be extended to any situation, as long as the Corps determines that there is an immediate danger to life or property. Assistance may be extended as long as there is immediate danger, but must end when the situation is stabilized, even if facilities remain in disrepair. Local agencies are responsible for providing real estate access and for cleaning up debris afterwards.

***Initial Recovery (Phase II).*** In Phase II, repairs may include closing breached levees or repairing damaged facilities to provide an interim level of flood protection for the remainder of a storm season. Work would be accomplished to regain a moderate level of flood protection (20- to 25-year flood) in a sequential manner.

***Final Restoration (Phase III).*** Phase III repairs would be performed after the storm season and would restore damaged facilities to pre-flood levels of protection.

## NATURAL RESOURCES CONSERVATION SERVICE

The Natural Resources Conservation Service (NRCS) of the U.S. Department of Agriculture (USDA) provides technical and financial assistance to communities for restoring watersheds impaired by natural disasters. Through the Emergency Watershed Protection program (EWP), the NRCS helps safeguard people and property after natural disasters, such as floods, fires, windstorms, earthquakes, and drought. The NRCS helps repair overtopped levees, dikes, and other flood-retarding structures. To prevent future flooding, the NRCS provides assistance to help clear watercourses clogged by sediment and debris.

The 1996 Farm Bill gave the USDA the authority to purchase floodplain easements as an emergency measure under the EWP program. This new authority provides an opportunity to purchase easements when the long-term economic, social, and environmental benefits of purchasing the easement is greater than the repeated repairs to the same land. Where willing sellers are available, land retirement provides a more permanent solution from damages associated with flooding or products of erosion, giving the landowner fair value for the land and providing an opportunity to enhance the environmental functions of the riparian corridor. In many cases, some agricultural production will still be possible by purchase of an easement, leaving residual value such as the ability to plant crops when the land it is not flooded. The authority gives NRCS the flexibility to provide long-term, environmentally responsible flood protection while respecting private property rights.

## FEDERAL EMERGENCY MANAGEMENT AGENCY

Floodplain Management at the national level is administered through the National Flood Insurance Program (NFIP) by the Federal Emergency Management Agency (FEMA). The NFIP has two major functions. One function is the flood insurance function that is administered within FEMA by the Federal Insurance Administration (FIA); the other function is Floodplain Management (FPM). Mapping of the floodplain and floodway in each community across the nation is an important reference used by both the insurance side and the FPM side of the NFIP. Presently over 17,000 communities participate in the NFIP nationwide. These communities have

a FEMA map that at the least delineates the boundary of the 100-year floodplain. Where detailed studies have been completed, the maps also identify the water surface elevation of the FEMA flood. On the basis of these maps, the local governments require that the constructed lowest floor of all new structures be at or above the level of the FEMA flood. Flood insurance rates for the past 30 years have been based on the FEMA floodplain maps.

FEMA administers the National Flood Insurance Program and disaster planning and recovery programs. FEMA works closely with states and communities and provides financial and technical assistance and flood hazard maps and data to better manage floodplains.

### OTHER FEDERAL AGENCIES

The USBR operates several multipurpose projects throughout the Central Valley. The USBR's flood hydrologists assist in interpreting flood-related data. The U.S. Geological Survey (USGS), in cooperation with the California Department of Water Resources (DWR), has responsibility to collect surface-water data, which become the essential database to develop the hydrology required for defining the floodplain and which is then shown on the Flood Insurance Rate Maps. The National Park Service, along with the NRCS, gets involved with the watershed approach to facilitate solutions to reducing flood damage.

## STATE OF CALIFORNIA AGENCIES

### THE RECLAMATION BOARD

The Reclamation Board of the State of California (The Reclamation Board) was established by the Legislature in 1911 to oversee the construction of flood protection levees and help Californians reclaim lands of the Central Valley, primarily for agriculture. The Reclamation Board has seven members, each appointed by the Governor. The Reclamation Board is the primary State agency that cooperates with the Corps in flood management projects along the Sacramento and San Joaquin rivers and their tributaries. The Reclamation Board has acted as liaison between the State of California; the Corps; and residents, property owners, and local agencies within the Central Valley on flood management issues.

As part of the Public Law 84-99 levee rehabilitation efforts, The Reclamation Board is continuing its longtime role of providing all the lands, easements, and rights-of-way and relocations for the Corps' work. In addition, The Reclamation Board has regulatory authority over projects carried out along or near the Sacramento and San Joaquin rivers and their tributaries. The Reclamation Board also administers the Designated Floodway Program, a nonstructural flood management approach which is intended to ensure the safe passage of floodflows through flood-prone areas.

## CALIFORNIA DEPARTMENT OF WATER RESOURCES

The California Department of Water Resources operates the State Water Project; assists the National Weather Service in flood forecasting; and has the responsibility to regulate dams, provide flood protection, and assist in emergency management. The California Water Code entrusts the regulatory Dam Safety Program to DWR. DWR is responsible for reviewing and approving applications, plans, and specifications for dam construction or alteration. DWR conducts inspections of dams, reviews performance of existing dams, and identifies illegal dams for removal or supervises remedial work to bring such dams into compliance.

DWR helps community officials prepare floodplain management plans and evaluate impacts of proposed development in flood-prone areas. DWR discourages unwise development in areas subject to flooding and promotes flood proofing of existing and proposed structures in floodplains where development is already under way. DWR has the responsibility to ensure structural integrity and hydraulic capacity of existing flood protection facilities in the Central Valley in cooperation with local maintaining agencies and in coordination with The Reclamation Board, which shares some responsibilities with DWR in the Central Valley. DWR has the responsibility to ensure hydraulic capacity and has supervisorial powers over the maintenance and operation of the Sacramento River Flood Control Project in cooperation with local maintaining agencies and in coordination with The Reclamation Board. The Reclamation Board has supervisorial powers over the maintenance of the flood management facilities on the San Joaquin River system in cooperation with local maintaining agencies. DWR provides flood and water supply forecasting, high-water warning and flood information dissemination systems, flood-fighting advice and assistance, and (through the California Data Exchange Center) year-round hydrologic data.

The principal goal of emergency management assistance is to fulfill the emergency response functions of DWR established in the California State Emergency Plan and the California Water Code, including provision of technical and physical assistance to the Federal Emergency Management Agency, the State Office of Emergency Services, and other agencies that make Federal and State resources available to local communities. DWR inspects State jurisdictional dams, State Water Project facilities, Delta levees, and Federal project levees for damage due to natural disasters. DWR continues essential services and directs all other resources, as necessary and appropriate, to accomplish specific objectives in the State Emergency Plan. DWR investigates and reports disaster conditions, provides technical assistance for damage assessment, and helps to develop hazard mitigation plans.

## OFFICE OF EMERGENCY SERVICES

The State Office of Emergency Services (OES) may allocate funds for investigation, estimates, reports, and repairs regarding disaster recovery financial assistance for flood management works that do not come under the provisions of another authority. OES administers FEMA's hazard mitigation program in California.

## EMERGENCY RESPONSE PROCEDURES

### STANDARD EMERGENCY MANAGEMENT SYSTEM

The Standard Emergency Management System (SEMS) incorporates a broad range of emergency management practices to effectively respond to a disaster. Between disasters, SEMS builds connections to integrate management, communications, and resources at the local, regional, and statewide levels to maximize the responsiveness of emergency personnel.

#### Emergency Response Organization

The Standardized System is multilevel and designed to manage disasters anytime and anywhere in the State. It is intended to facilitate priority setting, interagency cooperation, and the efficient flow of resources and information, but does not alter statutory authorities or responsibilities of emergency responders. SEMS provides the framework for coordinating State and local government emergency response in California using the existing incident command system and mutual aid agreements. It consists of five organizational levels, five main functions, mutual aid, the Incident Command System, multi/inter-agency coordination, and the operational area concept.

Most local jurisdictions have "mutual aid" agreements. These agreements provide a means for a community that has fully committed all of its available resources to a local emergency to obtain additional resources from surrounding communities and counties. Mutual aid agreements are used daily and during disasters by fire, law enforcement, health care, and other disciplines. SEMS incorporates existing and newly developed mutual aid systems. The Incident Command System (ICS) provides standardized procedures and terminology, a unified command structure, a manageable span of control, and an action planning process that identifies overall incident response strategies. Within SEMS, the general concepts of the ICS are translated to each level of the statewide response system—from a local field incident to statewide coordination. This allows seamless communication among all responding agencies and levels of government.

#### Response Information Management System

Effective operation of SEMS is critically dependent upon timely, clear, and accurate information flow between all components of the system. The Governor's OES recently instituted the Response Information Management System (RIMS). RIMS is a network that allows for the rapid sharing of critical information and resource management data between the various organizational levels during a disaster.

When a local governmental resource need is identified, RIMS is designed to identify a source for the required assistance. It is also designed to provide access to all the requests and their status. The intent is to provide responding agencies a clearer picture of emergency activities and committed resources. Eventually, RIMS will help the transition from response to recovery by allowing local jurisdiction damage estimates to be put online for computer access.

***State-Federal River Forecast Center.*** The River Forecast Center provides forecasts and warnings of severe weather events which can endanger human life and property. These warnings are based on a variety of sources, including weather stations, stream gages, ship reports, and satellite images. Gage information, forecasts, and warnings are disseminated through the California Data Exchange Center (CDEC) computer system. The CDEC provides flood forecasts for all major tributaries influencing the Central Valley. DWR's flood operation center also sends flood warnings to local agencies once predetermined river stages are forecast.